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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/640,089 | 08/13/2003 | Dawn White | DWH-11802/29 | 7656 |
| 25006 | 7590 | 08/23/2006 | EXAMINER | |
| GIFFORD, KRASS, GROH, SPRINKLE & CITKOWSKI, P.C PO BOX 7021 TROY, MI 48007-7021 | | | SELLS, JAMES D | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1734 | |

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/640,089

Applicant(s)

WHITE, DAWN

Examiner

James Sells

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-4, 10-15, 22-31, 34-37, 39 and 43 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Dourmanidis et al (US Patent 6,450,393).

Dourmanidis discloses a method and apparatus for producing a three-dimensional part. As shown in the figures, cutting device 40 cuts individual planar sheets 32 from materials supplied from feed system 66. These planar sheets are positioned on apparatus 30 comprising table 36, base 50, Cartesian table 52 and anvil 54. Ultrasonic welder 38 then welds the individual sheets 32 together to form the three-

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dimensional part in the manner claimed by the applicant. See column 5, line 14 through column 6, line 43.

Control unit 46 may be a computer and controls the operation of the ultrasonic welder. This control unit requires input of the geometry of the part and may include a CAD software package (see col. 8, line 11 through col. 9, line 3). This control unit also controls the vertical pressure, vibration amplitude and welding time. Thus, Dourmanidis controls the energy delivered to the bond zone in the manner claimed by the applicant. See col. 9, line 57 through col. 10, line 31.

At col. 9, lines 51-56, Dourmanidis discloses that melting of the materials does not take place. The temperature rise of the materials is a function of the process settings and its maximum range is between 35% and 50% of the material melting temperature. Thus, Dourmanidis maintains uniform thermal conditions in the bond zone in the manner claimed by the applicant.

Regarding claim 1, it is noted that applicant has employed the phrase "alone or in combination". Based on this phrase, it is the examiner's position that a reference that teaches any one or more of applicant's claimed steps, anticipates applicant's claim. Therefore since the reference of Dourmanidis described above teaches maintaining consistent energy delivery to the bond zone as well as maintaining uniform thermal conditions in the bond zone, it is the examiner's position that that Dourmanidis teaches applicant's claim.

Claim Rejections - 35 USC § 103

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5-9, 16-21, 32-33, 38 and 40-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dourmanidis as described above in paragraph 2.

Regarding claims 5-9 and 40-42, without the disclosure of unexpected results, it is the examiner's position that the look-up table and various adaptive control methods are well known and conventional in the art and would have been obvious to employ in the method of Dourmanidis described above in order to provide more precise control during the bonding process.

Regarding claims 16-21, the grid/map, height-to-width ratio and appropriate process parameters are conventional control features that are within the purview of one having ordinary skill in the art. Therefore, it would have been obvious to one having ordinary skill in the art to employ such control features in the method of Dourmanidis described above in order to facilitate manufacture of the materials.

Regarding claims 32-33 and 38, it is the examiner's position that the various heat sources (i.e. air, hot water, oil, steam, channels, sonotrode) are within the purview of one having ordinary skill in the art and would have been obvious to employ in the method of Dourmanidis described above in order to facilitate heating of the materials.

Response to Arguments

5. Applicant's arguments filed May 30, 2006 have been fully considered but they are not persuasive.

Applicant argues the reference of Dourmanidis does not maintain consistent energy delivered to the bond zone, but merely observes to temperature. The examiner does not agree. Dourmanidis controls the process so that the temperature rise is maintained in a specific range (i.e. 35-50%) and senses the temperature of the materials. The examiner believes this disclosure of Dourmanidis anticipates applicant's claimed limitation of maintaining consistent energy delivery to the bond zone and applicant's argument is believed to be incorrect in this instance.

Applicant argues Dourmanidis does not disclose maintaining consistent stiffness and mechanical resistance to vibration in the bond zone. This is true. However, the examiner believes Dourmanidis discloses maintaining consistent energy delivery to the bond zone as well as maintaining uniform thermal conditions in the bond zone in the manner claimed by the applicant. Therefore the examiner believes Dourmanidis anticipates applicant's claim and applicant's argument is believed to be irrelevant in this instance.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a

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reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Telephone/Fax

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Sells whose telephone number is (571) 272-1237. The examiner can normally be reached on Monday-Friday between 9:30 AM and 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Fiorilla can be reached at (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

A handwritten signature in black ink, appearing to read 'J. Sells', with a horizontal line drawn underneath it.

**JAMES SELLS
PRIMARY EXAMINER
TECH. CENTER 1700**